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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,192	11/10/2000	David Baker	655-014d	4848

7590 10/29/2003

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EXAMINER

SORRELL, ERON J

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 10/29/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

PRG

Office Action Summary	Application No.	Applicant(s)	
	09/710,192	BAKER ET AL.	
	Examiner	Art Unit	
	Eron J Sorrell	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(e). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-23 and 33-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-19, 21-23 and 33-40 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14-19 and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowes et al. (U.S. Patent No. 5,655,151 hereinafter Bowes) in view of Kumakiri (U.S. Patent No. 6,219,759).

4. Referring to system claim 14 and method claim 33, Bowes teaches an information processing system with a data streamer, the data streamer comprising:

a channel state memory configured to store a first allocated channel information corresponding to a data transfer operation from a source module to the data streamer, and further configured to store second allocated channel information corresponding to the data transfer operation from the data streamer to a destination module (see line 61 of column 7 to line 34 of column 7; Note the register set is the channel state memory);

a buffer memory allocated to the data transfer operation for receiving data provided by the source module in accordance with the first allocated channel information and providing the received data to the destination module in accordance with the second allocated channel information (see line 61 of column 7 to line 34 of column 7; Note the FIFO is the buffer memory).

Bowes fails to teach the information processing system comprises a cache. Kumakiri teaches an information processing system including a processor, a cache memory, a main memory, and a plurality of I/O modules (see figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Bowes with the teachings of Kumakiri such that the system comprises a cache. One of ordinary skill in the art at the time of the applicant's invention would have been motivated

to make such modification to increase memory access time in the system as suggested by Kumakiri (see lines 7-17 of column 1).

5. Referring to system claim 15 and method claim 34, Bowes teaches the channel state memory stores information corresponding to a plurality of data transfer operations between the modules (see lines 36-47 of column 7).

6. Referring to system claims 16 and 17, and method claims 35 and 36, Bowes teaches the buffer memory is allocated for each one of the data transfer operations and the size of the buffer memory variably changes in accordance with the size of the corresponding data transfer operation (see lines 48-54 of column 9). Bowes further teaches the data transfer rate from the source module to the corresponding buffer is different than the data transfer rate from the buffer to the destination module (see lines 40-46 of column 9).

7. Referring to claims method claims 18 and 19, and method claim 37, Bowes teaches the first allocated channel information comprises a first channel descriptor and the second allocated channel information includes a second channel descriptor, wherein the data transfer operation from a source module to a

buffer is accomplished in accordance with the first channel descriptor and the data operation from the buffer to the destination module is accomplished in accordance with the second channel descriptor (see lines 17-28 of column 6).

8. Claims 21-23 and 38-40 rejected under 35 U.S.C. 103(a) as being unpatentable over Bowes in view of Kumakiri as applied to claims 14 and 33 above, and further in view of The Cache Memory Book by Jim Handy (hereinafter "Handy").

9. Referring to claims 21-23 and 38-40, the combination of Bowes and Kumakiri fails to teach the data cache operations having a coherent allocation policy, a coherent no-allocation policy, or a non-coherent no-allocation policy.

Handy teaches an existence of many caching policies and teaches the selection of a particular policy is simply a matter of design choice (see pages 49-50) and can be based on several factors such as speed, cost, time to implement, etc.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Bowes and Kumakiri such that the data cache operations have a coherent allocation policy, a coherent no-allocation policy, or a non-coherent no-allocation policy. One

of ordinary skill in the art would have been motivated to make such modification in order to implement the cache using a policy that is most suited for their purpose and requirements as suggested by Handy.

Allowable Subject Matter

10. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art as it pertains to information processing systems with data streamers:

U.S. Patent No. 6,230,241 to McKenney

U.S. Patent No. 6,378,050 to Tsuruta et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eron J Sorrell whose telephone number is 703 305-7800. The examiner can normally be reached on Monday-Friday 9:00AM - 5:30PM.


Application/Control Number: 09/710,192
Art Unit: 2182

Page 7

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A Gaffin can be reached on 703 308-3301. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-3900.

EJS
October 27, 2003


Abdelmoniem Elamin
Primary Examiner